



## TAX AUDIT AND COMPLIANCE OF INDONESIAN INDIVIDUAL TAXPAYERS

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### ABSTRACT

*This research is conducted to answer the question whether the audit increases the tax compliance or not. The results shows that there is an increase in the amount of gross income reported by the taxpayer after audit although the result is weak.*

*This study adopt the research of Norman Gemmell and Marissa Ratto (2012) by using difference-in-difference to determine the effect of changes in taxpayer compliance after audit. The population of the research is individual taxpayers who are registered at the high-wealth individual tax office in Indonesia who submit their tax return in the period 2008 to. 2012.*

*From the regression results, I obtain an interaction coefficient of 0.035 although only significance at  $\alpha = 0.15$ . It shows that there is a difference in the growth of gross income reporting from taxpayers who are audited after compared to the growth in gross income reporting from taxpayers who do not undergo audit. With a coefficient of 0.035 it can be interpreted that the gross income reporting of the audited Taxpayer is 3.56 percentage points higher than those who has not been audited.*

*Penelitian ini dilakukan dalam rangka mengidentifikasi apakah pemeriksaan dapat meningkatkan kepatuhan Wajib Pajak. Hasil penelitian ini mengungkapkan bahwa peningkatan penghasilan yang dilaporkan dalam SPT yang dilakukan oleh Wajib Pajak setelah dilakukan pemeriksaan, sangatlah lemah.*

*Penelitian ini menggunakan pendekatan uji beda yang diadopsi oleh Norman Gemmell dan Masissa Ratto (2012) dalam rangka mengidentifikasi efek pemeriksaan terhadap kepatuhan. Populasi dalam pemeriksaan ini adalah Wajib Pajak Orang Pribadi yang terdaftar di KPP Wajib Pajak Empat (WP OP terbesar) atas SPT yang dilaporkan pada tahun 2008-2012.*

*Berdasarkan hasil regresi, Peneliti menemukan bahwa koefisien interaksi berada pada angka 0.035 dan hanya signifika Ketika  $\alpha = 0.15$ . hal ini menunjukkan bahwa bahwa terdapat perbedaan nilai penghasilan yang dilaporkan dalm SPT antara Wajib Pajak yang diperiksa dnegan Wajib Pajak yang tidak diperiksa. Dengan koefisien sebesar 0.035 menunjukkan bahwa penghasilan yang dilaporkan oleh Wajib Pajak yang diperiksa lebih tinggi sebesar 3.56% dibandingkan Wajib Pajak yang tidak diperiksa.*

## 1. INTRODUCTION

Indonesia adopts the self-assessment system, that is the shifting of responsibility in determining their tax obligations. The Circular Letter Number SE-15/PJ/2014 regarding the 2014 Examination Strategy Plan states that in the self-assessment system, there is a risk of non-compliance which may risk the national revenue. Then, the tax authority is given an authority to test the compliance of taxpayers concerning their tax obligations by law.

Implementation of the self assessment system, that has reached three decades, does not provide a guarantee that level of compliance will be optimal. According to Annual Income Tax Return-Filing Compliance Ratio (DGT Annual Report, 2012) that the realization of income tax return-filing compliance ratio for individual in 2012 is 53.72%. It is decrease from 54.72% in a year before. Its means that the noncompliance is still the problem for Indonesia.

In order to cope with the problem, every year the Indonesia tax authority (DGT) performs tax audits to test the compliance of taxpayers. Regarding the audit activities carried out by DGT, the general question that is often asked is whether the audits conducted have a positive impact on taxpayer compliance?

The researches concerning the tax audit and its effects on compliance yields varying conclusions. For example, research conducted by Niu (2010) on the Food Service and Drinking Place (NAICS 772) business sector in America results the conclusion the tax audit carried out a positive impact on the sales tax. It increases of 2.63% compared to companies that were not carried out of audit.

However, the opposite results are shown by the research conducted by Gemmell and Ratto (2012) on individual taxpayers in the UK. They find the conclusion that the compliant individual taxpayers reports lower income in the range of 7% to 17% after the tax audit, compared with the individual taxpayers that is not audited. On the other hand, taxpayers, who were previously classified as non-compliant, reported higher income in the range of 5% to 24%.

According to the fact that the tax audit and its effects on compliance yields ambiguous results, I try to identify the impact of tax audit on individual taxpayers in Indonesia. The population in this study is individual taxpayers that registered at KPP Wajib Pajak Besar Empat (high-wealth individual tax office), the tax office that only administer wealthiest individual in Indonesia. The main reason why I choose this office as a subject of research because this tax office administers only the highest income or the wealthiest taxpayers in Indonesia. By understanding how they respond, we will understand

how the impact of audit on the main source of personal income tax revenue.

## 2. LITERATURE REVIEW

In the initial literature that studies the compliance of taxpayers there are two main approaches used, namely the theoretical approach and laboratory experiments. The first approach uses the assumption that each taxpayer will try to maximize the utility or benefit in every decision making. Research that uses this assumption was first conducted by Allingham and Sandmo (1972) in their study "Income Tax Evasion: A Theoretical Analysis" which explain taxpayer compliance depending on three variables, those are the degree of probability of audit, the level of tax rates, and the level of sanctions given to taxpayers.

Other research that still uses a theoretical approach is a study conducted by Bernasconi (1998) in his research "Tax Evasion and Orders of Risk Evaluation." He explains that sociological and psychological factors, such as ethical, moral norms should be observed to help explain the tax compliance.

The next approach that uses laboratory experiment approach is carried out by Alm and McKee (2006) in their research "Audit Certainty, Audit Productivity, and Taxpayer Compliance." They find how the influence of "certain" audit probability information on taxpayer compliance. Alm and McKee (2006) identify that giving information to a group of taxpayers about the possibility of performing the tax audit, lead a positive effect on the level of compliance. Vice versa, taxpayers who know that there will be no audit causes the compliance they report down.

Yongzhi Niu (2010) in a study "Tax Audit Impact on Voluntary Compliance" on the Food Service and Drinking Place (NAICS 772) business sector in the United States determines that the compliance of the taxpayer after examination increase. In his research Niu take the object of research in the form of a population of corporate taxpayers in the business sector which amounted to 6,886 companies and divided it into two groups namely groups subject to audit (treatment) consisting as 1,995 taxpayers and groups that were not subject to audit (control) as much 4,931 Taxpayers.

In conducting its analysis, niu (2010) used the difference-this-difference He concludes that the audit has a positive impact on increase in the level of sales tax 2.63% compared to the company that was not examined.

Norman Gemmell and Marissa Ratto (2012) in a study "Behavioral Responses To Taxpayer Audits: Evidence From Random Taxpayer Inquiries" conduct the object of research in the form of a population of individual taxpayers in 1997 to 2003. They divide the population into two groups, the groups that were

audited as treatment group and the groups that are not audited (controlled group). Before conducting the analysis, Gemmell and Ratto (2012) divide the treatment group into two sub-groups namely compliant taxpayers and non-compliant taxpayers.

In conducting their analysis, Gemmell and Ratto (2012) used the difference-in-difference approach by choosing an independent variable in the form of a dummy variable consisting of four dummy variables, the examination dummy variable, time dummy variable, compliant taxpayer dummy variable, and Mandatory dummy variable. The dependent variable is the amount of tax reported (tax payable). They analyze using the Ordinary Least Square (OLS) method. Based on the analysis, they conclude that compliant taxpayers report lower tax payable around 7% to 17% after conducted tax audit. The opposite result is happen. The individual taxpayers, who were previously indicated as not compliant, report higher around 5% to 24% after the audits.

### 3. METHODOLOGY

The population of the research is individual taxpayers who are registered at the high-wealth individual tax office who submit their tax return in the period 2008 to 2012. Taxpayers are selected for analysis based on an audit conducted in 2010.

The composition of individual taxpayers in the high-wealth individual tax office is dominated by private employees, individual service businesses, taxpayers engaged in real estate business. The percentage of the composition of the taxpayers was 92.51%, 1.32%, 1.23% and 4.94% for the rest, respectively. See Table 1 Composition of Taxpayers.

This study adopt the research of Norman Gemmell and Marissa Ratto (2012) by using difference-in-difference to determine the effect of changes in taxpayer compliance after audit. The population in this study is grouped into two groups, that the group of taxpayers who are audited as a treatment group and the taxpayers who are not audited as a control group. Then, the difference-in-difference (DID) equation to identify whether or not there is an effect of tax audits on equality tax compliance as follows:

$$y_{it} = \beta_0 + \beta_1 DT + \beta_2 DG + \alpha DG.DT + \epsilon_{it}$$

where:

$i$  = Taxpayer

$t$  = Time

$y$  = Gross Income

$DT$  = dummy variable for time

(=0 for before 2010, =1 for after 2010)

$DG$  = dummy variable for group

(=0 for control group, =1 for treatment group,

that is taxpayers audited in 2010)

$\epsilon_{it}$  = Error

### Data

Data used in this study is the Annual Tax Returns for Individual Taxpayers and the audit data from the Tax Audit Report Application (ALPP). There are 1,137 samples obtained during 2008-2012, after removing incomplete tax return and negative or zero tax obligation on the tax return.

In conducting the analysis, I used data available in the 2008 to 2012. Then the analysis is carried out on all types of audits in order to test the compliance of individual taxpayers who are restricted only in the form of gross income reporting compliance submitted by taxpayers through the annual tax return

### 4. RESULTS AND DISCUSSIONS

The discussion of gross income on the tax return first begin by looking at the increase of the average gross income trend for the treatment and control groups from 2008 to 2012. As seen below, there is increase of the gross income both on the treatment group and the control group. From the two figures, the trend of gross income reported by the two groups had experienced a decrease for the period before 2010 and were both rising for the period after 2010. However, the increase in the gross income reported by the treatment group was higher than the control group.

According to the figure on Table 2 Average Trends in Gross Income of the Treatment Group and Control Group, it can be seen that the average increase in gross income reporting per individual for the treatment group is lower than the control group. But after the inspection period, the average increase in reported gross income per individual for the treatment group was higher than the control group. This situation is critical condition for different in different approach.

### Results

#### Common Trend

According to Lechner (2011) common trend assumption is very important that should be met when conducting data using the difference in difference approach. The common trend assumption is fulfilled when the conditions of the control group and treatment group have the same trend before a policy is applied to the treatment group. So that the differences in trend changes after implementing a policy, in this case the tax audit, should be concluded as a result of the implemented the audit.

In the difference in difference approach, the functional form of the variable is also critical. The functional form of the gross income variable will be used in the regression analysis. Based on testing common trend assumptions using the rupiah value, it produces

the same trend direction. Then, it can be concluded that the variable meets the common trend assumption.

The next common trend assumption test is carried out using natural logarithm values for gross income. That is the adjusted rupiah value transformed into natural logarithmic form. Based on testing common trend assumptions using natural logarithm values, it produce the same trend direction. So it can be concluded testing using natural logarithm values meet the common trend assumption.

### Classic Assumptions

Before conducting regression analysis, it requires some prerequisites to meet the classic assumption test. It consists of several tests, including: normality test, heterokedasticity test, autocorrelation test, and multicollinearity test.

Normality test is done with the aim to determine the distribution of residual values from each observation. This is important to do, especially when conducting analysis to draw conclusions. In this study, the normality test is done by observing the probability plot images and looking at the distribution of observations of the diagonal line. The results is the normality testing with the distribution of residual values over gross income moving around the diagonal line. It shows that the value of gross income is normally distributed.

Heteroscedasticity testing is performed to determine whether there is a variant of residuals on an observation of other observations. To test whether there is heterokedasticity or not, the Breuch-Pagan test is applied. Based on the test results, the chi-square p-value of 0.0000 was obtained with a significance level  $\alpha = 0.05$ . This value is smaller than the 5% significance level so  $H_0$  is rejected or in other words the variance is not homoscedasticity.

Autocorrelation testing is done to determine whether there is a relationship between one observation error with another error. In autocorrelation testing this research uses Geary runtest-Test. Based on the test, it obtains p-value of 0 with a significance level of  $\alpha = 0.05$ . This value is smaller than the 5% significance level so it can be said that autocorrelation did not occur.

Multicollinearity testing is performed to determine whether a combination of independent variables causes a correlation. Testing is done by the `pwcorr` command. Based on the multicollinearity test, it can be concluded that there are no symptoms of serious multicollinearity because the value of the correlation coefficient is in the range between -0.0252 to 0.0372.

### Regression Results

In the difference in difference approach, the functional form of the variable is crucial. By using the natural logarithm value and following Robert and Whited (2012), a t-test for mean of income growth in both groups are conducted. Based on this test the values  $[Pr(T > t)] = 0.3047$  with a significance level of  $\alpha = 0.05$  and an error standard of 0.0182472. Then it can be concluded that the two groups have different averages.

Furthermore, to identify the magnitude of differences in income from the two groups being compared, I conduct the Ordinary Least Squares (OLS) regression. To overcome the problem of heterokedasticity and autocorrelation, Davidson and MacKinnon robust standard errors are used for heteroscedasticity using the `hc3` option.

In interpreting the regression results, the coefficient of the interaction between treatment groups and time become the most important coefficient. This coefficient reflects the influence of a policy, the audit, on gross income reported by the taxpayer.

By using a significance level  $\alpha = 0.05$ , the value ( $P > t$ ) = 0.882 with a standard error of 0.238, I fail to reject the null hypothesis. Then it can be said that the coefficient of the interaction variable between the dummy group and the time dummy ( $Dg.Dt$ ) is not different from zero.

A positive and significant coefficient only I get when the significance level is set at  $\alpha = 0.15$ . It means that the possibility of the coefficient not zero is very small. At this level, the coefficient of the interaction between treatment groups and time is 0.035.

### Discussion

From the regression results, I obtain an interaction coefficient of 0.035 although only significance at  $\alpha = 0.15$ . It shows that there is a difference in the growth of gross income reporting from taxpayers who are audited (treatment group) after compared to the growth in gross income reporting from taxpayers who do not undergo audit (control group). With a coefficient of 0.035 it can be interpreted that the gross income reporting of the audited Taxpayer is 3.56 percentage points higher than those who has not been audited.

It also can be seen that the audit in general have a positive effect on the growth of gross income. The coefficient value of the interaction dummy check with the dummy time that has a positive sign can be interpreted to increase the number of audit is likely increase the amount of gross income reported by taxpayers compared with gross income reported by taxpayers who are not audited. The increase in the

amount of gross income reported by taxpayers after audit are in line with research conducted by Norman Gemmel and Marisa Ratto (2012).

## CONCLUSIONS

This research is conducted to answer the question whether the audit increases the tax compliance or not, which is reflected in gross income reporting? The results of the analysis shows that there is an increase in the amount of gross income reported by the taxpayer after audit although the result is little bit weak.

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**Tabel 1**  
 Composition of Taxpayers

No	Sector	Share
1	Private Employees	92.51%
2	Individual service businesses,	1.32%
3	Taxpayers engaged in real estate business	1.23%
4	Others	4.94%

**Tabel 2**

Average Trends in Gross Income of the Treatment Group and Control Group  
 (in million rupiah adjusted)

